

Kotlin - Overview

What is Kotlin?

Kotlin is a new open source programming language like Java, JavaScript, Python etc. It is a high level strongly statically typed language that combines functional and technical part in a same place. Currently, Kotlin mainly targets the Java Virtual Machine (JVM), but also compiles to JavaScript.

Kotlin is influenced by other popular programming languages such as Java, C#, JavaScript, Scala and Groovy. The syntax of Kotlin may not be exactly similar to Java Programming Language, however, internally Kotlin is reliant on the existing Java Class library to produce wonderful results for the programmers. Kotlin provides interoperability, code safety, and clarity to the developers around the world.

Kotlin was developed and released by JetBrains in 2016. Kotlin is free, has been free and will remain free. It is developed under the Apache 2.0 license and the source code is available on GitHub

Why Kotlin?

Kotlin is getting high popularity among all level of programmers and it is used for:

- Cross-platform Mobile applications.
- Android Application Development.
- Web Application Development
- Server Side Applications
- Desktop Application Development
- Data science based applications

Kotlin works on different platforms (Windows, Mac, Linux, Raspberry Pi, etc.) and it's 100% compatible with Java.

Kotlin is used by many large companies like Google, Netflix, Slack, Uber etc to develop their Android based applications.

The most importantly, there are many companies actively looking for Kotlin developers, especially in the Android development space.

Kotlin Version?

At the time of writing this tutorial on Aug 3, 2021, The current Kotlin released version is 1.5.21

Kotlin Advantages

Following are some of the advantages of using Kotlin for your application development.

- 1. Easy Language** – Kotlin supports object-oriented and functional constructs and very easy to learn. The syntax is pretty much similar to Java, hence for any Java programmer it is very easy to remember any Kotlin Syntax.
- 2. Very Concise** – Kotlin is based on Java Virtual Machine (JVM) and it is a functional language. Thus, it reduce lots of boiler plate code used in other programming languages.
- 3. Runtime and Performance** – Kotlin gives a better performance and small runtime for any application.
- 4. Interoperability** – Kotlin is mature enough to build an interoperable application in a less complex manner.
- 5. Brand New** – Kotlin is a brand new language that gives developers a fresh start. It is not a replacement of Java, though it is developed over JVM. Kotlin has been accepted as the first official language of Android Application Development. Kotlin can also be defined as - **Kotlin = Java + Extra updated new features.**

Kotlin Drawbacks

Following are some of the disadvantages of using Kotlin.

- 1. Namespace declaration** – Kotlin allows developers to declare the functions at the top level. However, whenever the same function is declared in many places of your application, then it is hard to understand which function is being called.
- 2. No Static Declaration** – Kotlin does not have usual static handling modifier like Java, which can cause some problem to the conventional Java developer.

Quiz Time (Interview & Exams Preparation)

Q 1 - Kotlin has been developed based on the following programming language?

A - Python

B - Scala

C - Java

D - None of the Above

Q 2 - Kotlin supports object-oriented and functional constructs?

A - True

B - False

Q 3 - Kotlin can be used to develop which of the following softwares?

A - Mobile Applications

B - Client Side Applications

C - Server Side Applications

D - All of the Above

Q 4 - Kotlin is 100% free?

A - True

B - False

C - Not Sure